

CLAIMS

1. A method for reduction of noise in an image including a plurality of pixels, comprising averaging pixel values over a region (R), characterized by the steps of:

- 5 - adding a selected pixel to the region (R);
- grouping pixels adjacent the region (R) in pairs, wherein the pixels of each pair being oppositely located with respect to said selected pixel;
- 10 - adding said pairs, pair by pair, to the region (R) in dependence on that the squared difference of the selected pixel value from the pairs half sums does not exceed the dispersion (D) of the noise of said difference multiplied by a tolerance level (L);
- 15 - repeating said step of grouping and said step of adding said pairs until that, in said step of adding said pairs, the condition for adding said pairs is not fulfilled for any pair;
- averaging the pixel values of said region (R); and
- 20 - using the thus averaged pixel value for said selected pixel in reconstruction of said image.

2. The method as claimed in claim 1, wherein said step of grouping excludes grouping of pixels previously being grouped in pairs.

25 3. The method as claimed in claim 1, wherein said step of adding said pairs excludes pairs that do not touch any of the pairs already included in said region (R).

4. The method as claimed in claim 1, 2 or 3, wherein said method is performed a second time and wherein said step of

grouping during said second time only includes pixels rejected during the first performance of said method.

5 The method as claimed in any of claims 1-4, wherein said step of adding said pairs is performed in dependence on that the squared difference of an average of pixel values in the region (R) from the pairs half sum does not exceed the dispersion (D) of said difference multiplied by a tolerance level (L).

10 6. A method for reduction of noise in an image including a plurality of pixels, characterized by the steps of:

- obtaining a noise reduced value of a first pixel;
- calculating an estimate of the fluctuation of said noise reduced value of said first pixel;
- 15 - calculating an estimate of the fluctuation at a second pixel, wherein said fluctuation of said second pixel is correlated to said fluctuation of said first pixel; and
- obtaining a noise reduced value of said second pixel by subtracting said fluctuation at said second pixel.

20 7. The method as claimed in claim 6, wherein the absolute value of said correlation is at least 0.8, preferably 0.9, and more preferably 0.95.

8. The method as claimed in claim 6 or 7, wherein said first and said second pixels are located in different images.

25 9. A method for reduction of noise in an image including a plurality of pixels, comprising averaging pixel values over a first region (R) around a selected pixel (X), characterized by the steps of:

- finding a second pixel (X1) corresponding to said selected pixel (X);

- adding said second pixel (X1) to a second region (R1);

- grouping pixels adjacent the second region (R1) in pairs,
5 wherein the pixels of each pair being oppositely located with respect to said selected pixel;

- adding said pairs, pair by pair, to the second region (R1)
10 in dependence on that the squared difference of the selected pixel value from the pairs half sums does not exceed the dispersion (D) of the noise of said difference multiplied by a tolerance level (L);

- repeating said step of grouping and said step of adding
15 said pairs until that, in said step of adding said pairs, the condition for adding said pairs are not fulfilled for any pair;

- averaging the pixel values of the first region (R), which corresponds to the second region (R1); and

- using the thus averaged pixel value for the selected pixel (X) of said first region (R) in reconstruction of said image.

20 10. The method as claimed in claim 9, wherein said step of grouping excludes pixels previously grouped in pairs.

11. The method as claimed in claim 9 or 10, wherein said dispersion (D) is based on the region (R1) instead of said selected pixel.

25 12. The method as claimed in any of claims 9-11, wherein said step of adding said pairs is performed in dependence on that the squared difference of an average of pixel values in the region (R1) from the pairs half sum does not exceed the

09716253-112100

dispersion (D) of said difference multiplied by a tolerance level (L).

13. The method as claimed in any of claims 9-12, wherein said second region (R1) is located in an image, which is different
5 than the image wherein said first region (R) is located.

14. The method as claimed in any of claims 9-13, wherein said noise reduced image is further noise reduced by the method according to any of claims 6-8.

15. The method as claimed in any of claims 9-14, wherein said noise reduced image is further noise reduced by the method
10 according to any of claims 1-5.

16. A computer program product directly loadable into the internal memory of a computer, said computer program product comprising software code portions for performing the method
15 as claimed in any of claims 1-15 when said computer program product is run on said computer.

09716253.112100